

532

DART AEROSPACE LTD		Work Order:	23756
Description: Tube Assembly		Part Number:	D3304-044
Dwg: D3304 Rev. A B		Qty:	2
05.08.12		Page 1 of 1	

Step	Location	Procedure	By	Date	Qty
1	DC	Issue Traveler	AK	05/08/12	2
2	MC	Cut blank: 22.00" as per Dwg D3304 Material: AISI 304/316 SS tubing 0.875" x 0.065" wall (M304TR0.875W.065) Identify for D3304-3 Batch: M16258	P	05/08/30	2
3	MC	Turn as per Folio FA458 and Dwg D3304 Identify as D3304-3	#	05/08/30	2
4	QC2	Inspect parts as they come off the CNC machine	P	05/08/30	2
5	QC8	Second check	ml	05/08/30	2
6	MC	Deburr	P	05/08/30	2
7	GA	Drill as per Dwg D3304 using drill Jig D3304-T1	PD	06.04.13	2
8	GA	Form as per Dwg D3304	PD	06.04.10	2
9	GA	Cut tube to length as per Dwg D3304	PD	06.04.10	2
10A	GA	Deburr	SB	06/04/11	2
10B	QC5	INSPECT WORK TO STEP 10A	2	06.04.12	2
11	WS	Weld bracket as per Dwg D3304 and QSI 004 Pick: Qty Part Number Description Batch 1 D3304-08 Bracket B05157	AK	06/04/13	2
12	QC9	Inspect weld	PD	06.04.13	2
13	FP	Powder Coat Grey Sandtex (Ref: 4.3.5.6) as per QSI 005 4.3	DL	06/04/15	2
14	QC3	Inspect Powder Coat	SB	06/04/17	2
15	GA	Assemble lanyard and pip pin as per Dwg D3304 Pick: Qty Part Number Description Batch 1 BLBS-0016 Pip Pin M16557 2 CBL-460 Loop Sleeve M19476 12.5" CBL-1240 Cable M7430	FF	06.04.17	2
16	QC5	Inspect work to Step 15	2	06.04.19	2
17	ST	Identify parts with batch number and part number using a fine point permanent marker as per Dwg D3304 and Stock	2	06/4/19	2
18	AC	Cost / part:	2	06.04.20	2
19	DC	Close W/O Inspect Level 21	2	06.04.20	2

Rev	Date	Change	Revised By	Approved
A	04.09.08	New issue	KJ/JLM	
B	04.09.28	BLBS-0016 changed from BLRS-001	KJ/JLM	
C	04.11.17	Revised Step 15	KJ/JLM	

RELEASED

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Mfg / Design Mgr	Approval QC Inspector

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Design Mgr	Approval QC Inspector
			Initial Design Mgr	Action Description Design Mgr	Sign & Date			
	6	One scrap Bad part		Destroy				

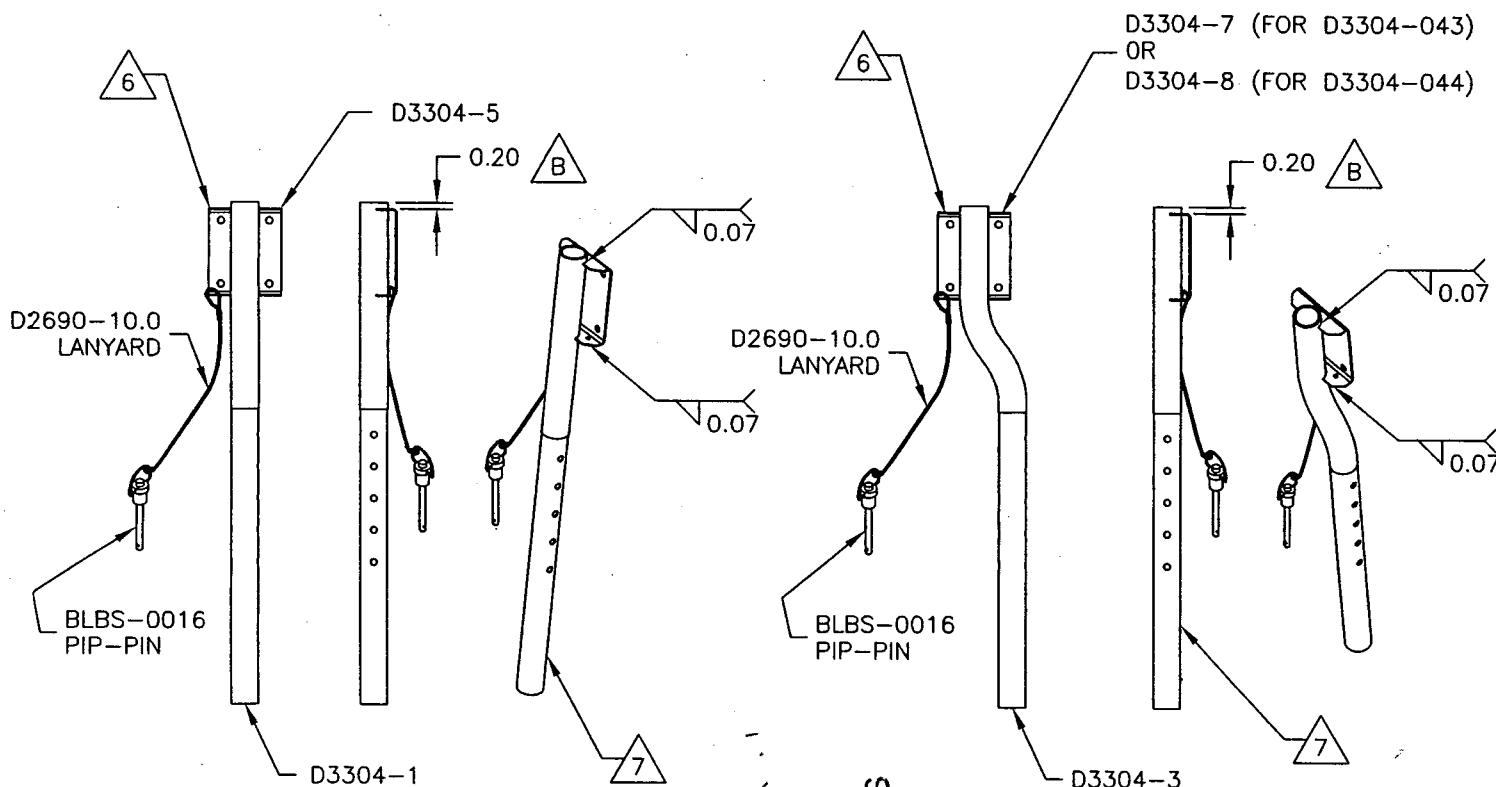
Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes ☒ No ☐ DQA: Date: 06/04/20

NOTE: Date & initial all entries

QA: N/C Closed: _____ Date: _____



DESIGN		DRAWN BY		DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
RF		RF		REV. B	
CHECKED		APPROVED		DRAWING NO.	
				D3304	SHEET 1 OF 4
DATE	05.07.15			TITLE	SCALE
				TUBE ASSEMBLY	1:6
A	04.08.18			NEW ISSUE	
B	05.07.15			UPDATE DIMENSIONS; ADD D3304-7/-8	



D3304-041 TUBE ASSEMBLY

**D3304-044 TUBE ASSEMBLY (SHOWN)
D3304-043 OPPOSITE**

D3304-041/-043/-044 NOTES:

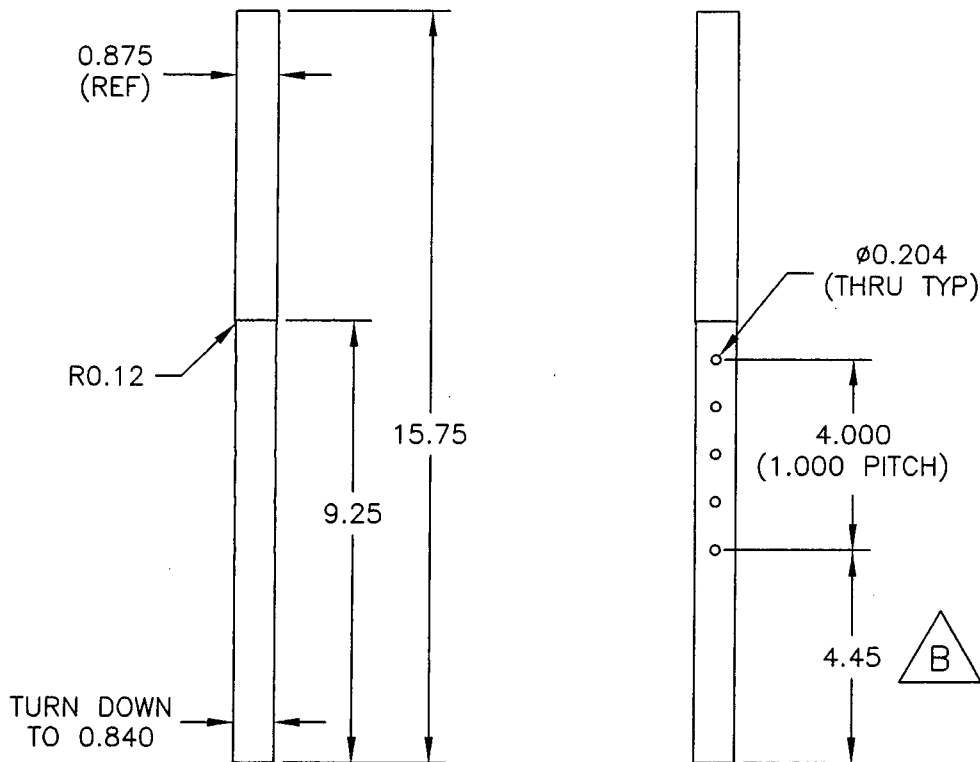
- 1) FINISH: POWDER COAT GREY SANDTEX (REF. 4.3.5.6) PER DART QSI 005 4.3
- 2) WELD PER DART QSI 004
- 3) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) ALL DIMENSIONS ARE IN INCHES
- 5) BREAK ALL SHARP EDGES 0.005 TO 0.015
- 6) IDENTIFY AS INDICATED USING FINE POINT PERMANENT INK MARKER "TCCA-PDA, DART AEROSPACE LTD, P/N D3304-XXX B/N BXXXXX, FOR PRODUCT ELIGIBILITY SEE PDA04-11"
- 7) IF BEING ASSEMBLED WITH D3303-041, ADD THE FOLLOWING USING A FINE POINT PERMANENT INK MARKER: "TCCA-PDA, DART AEROSPACE LTD, P/N D412-724-XXX B/N BXXXXX, FOR PRODUCT ELIGIBILITY SEE PDA04-11"

RELEASED
25.08.11



DESIGN RF	DRAWN BY RF	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
CHECKED <i>[Signature]</i>	APPROVED <i>[Signature]</i>	DRAWING NO. D3304	REV. B SHEET 2 OF 4
DATE 05.07.15	TITLE TUBE ASSEMBLY		SCALE 1:4

RELEASED
05.08.11



D3304-1 TUBE

D3304-1 NOTES:

- 1) MATERIAL: AISI 304/316 STAINLESS STEEL TUBE $\phi 0.875 \times 0.065$ WALL (REF. DART SPEC M304TR0.875W.065) ENSURE SEAMLESS TUBE IS USED
- 2) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED
- 3) ALL DIMENSIONS ARE IN INCHES
- 4) BREAK ALL SHARP EDGES 0.005 TO 0.015

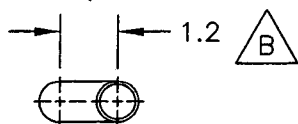
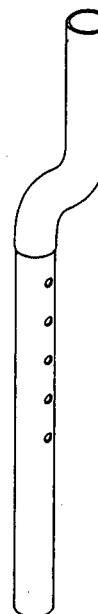
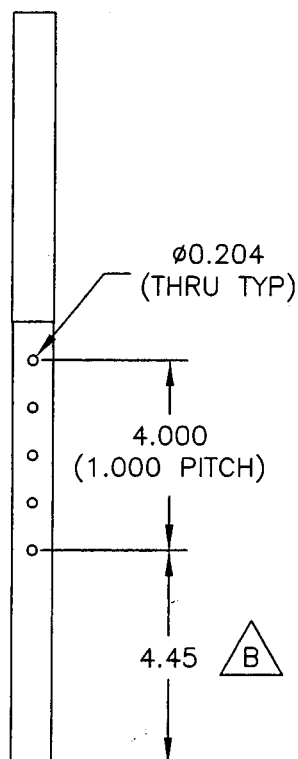
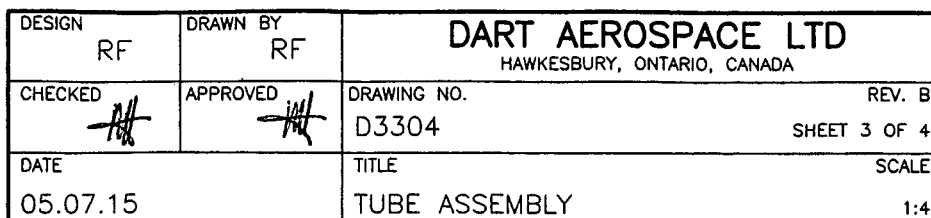
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WORK ORDER

NO. 23756

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NO. 23756

D3304-3 TUBE

D3304-3 NOTES:

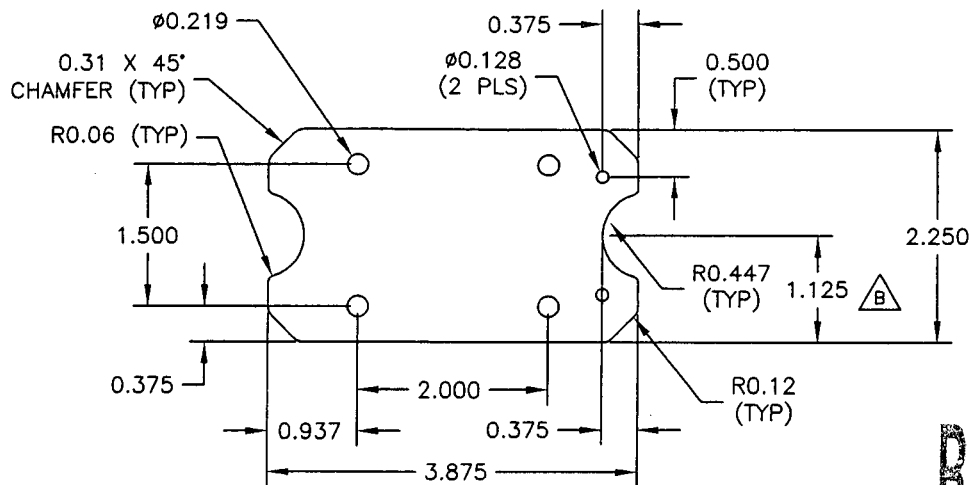
- 1) MATERIAL: AISI 304/316 STAINLESS STEEL TUBE $\phi 0.875 \times 0.065$ WALL
(REF. DART SPEC M304TR0.875W.065) ENSURE SEAMLESS TUBE IS USED
- 2) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED
- 3) ALL DIMENSIONS ARE IN INCHES
- 4) BREAK ALL SHARP EDGES 0.005 TO 0.015
- 5) BEND LINES 9.625, 13.375 DIMENSIONS

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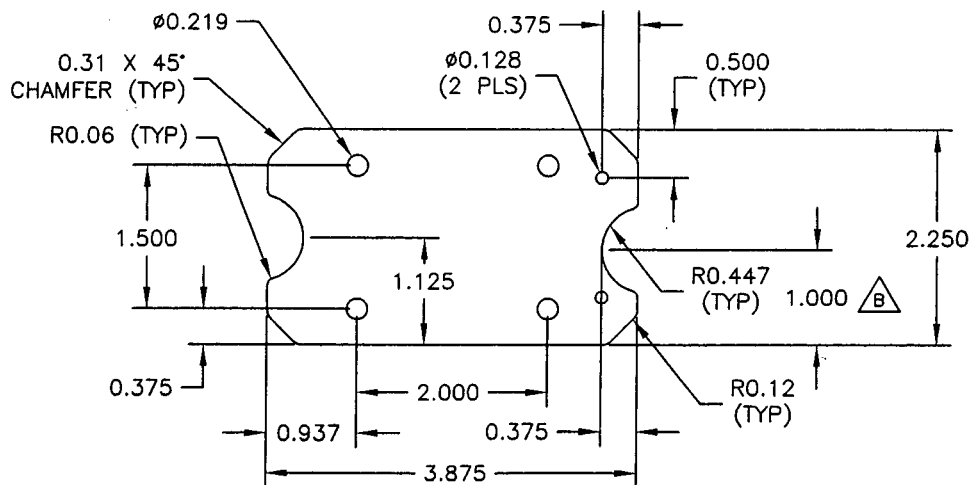


DESIGN RF	DRAWN BY RF	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
CHECKED <i>[Signature]</i>	APPROVED <i>[Signature]</i>	DRAWING NO. D3304	REV. B SHEET 4 OF 4
DATE 05.07.15	TITLE TUBE ASSEMBLY		SCALE 1:2

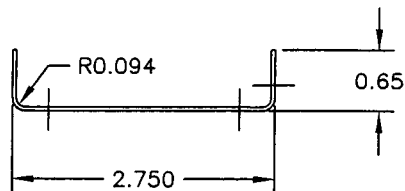


D3304-5 FLAT PATTERN

RELEASED
05.08.11



D3304-7/-8 FLAT PATTERN



D3304-5/-7 BRACKET
D3304-8 OPPOSITE

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FROM NOTICE

WORK ORDER

NO. 23756

NOTES:

- 1) MATERIAL: AISI 304/316 SS 0.040 THICK SHEET (REF. DART SPEC M304S20GA)
- 2) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED
- 3) ALL DIMENSIONS ARE IN INCHES
- 4) BREAK ALL SHARP EDGES 0.005 TO 0.015

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Job Costing Report

Dart Aerospace Ltd.
Hawkesbury

Jul 05, 2005
01:35 pm

Work Order No : 0023756
Project Name : D3304-044
Project For : WK532
Work Order Type : Main
Main WO Number :
House Part Number : D3304-044
Description : Tube Assembly
Manufactured : Yes
Amount Req'd : 2
Amount Done : 0
Start Date : 07-05-05
Est Finish Date : 08-10-05
Act Finish Date :
Drawings Req'd : No
Ok for Approval :
Approval Rec'd :

Department Code:
Burden Flags : NNNNNNNN
WO Status : Open
Invoice State : Not Invoiced
Invoice Date :
Invoice Number :
Invoice Amount : 0.00
Order Entry No :
OE Value : 0.00
Est Mark Up : 0.000%
Actual Mark Up : 0.000%
\$0 Posted to Finished Goods

	Estimated	Actual	Var. %	Posted	To Post
Material Cost :	0.00	0.00	0.00	0.00	0.00
Engineering Hours :	0.00	0.00	0.00		
Engineering Cost :	0.00	0.00	0.00	0.00	0.00
Production Hours :	0.00	0.00	0.00		
Production Cost :	0.00	0.00	0.00	0.00	0.00
Packaging Hours :	0.00	0.00	0.00		
Packaging Cost :	0.00	0.00	0.00	0.00	0.00
OverHead Hours :	0.00	0.00	0.00		
OverHead Cost :	0.00	0.00	0.00	0.00	0.00
CNC Hours :	0.00	0.00	0.00		
CNC :	0.00	0.00	0.00	0.00	0.00
Misc. Hours :	0.00	0.00	0.00		
Misc. :	0.00	0.00	0.00	0.00	0.00
Burden :	0.00	0.00	0.00		
Total Cost :	0.00	0.00	0.00		
Mark up :	0.000	0.000			
Selling Cost :	0.00	0.00			

	Estimated	Actual
Labour Hrs/Amount Done :	0.00	0.00
Profits/(Loss) :	0.00	0.00

Job Costing Report

Dart Aerospace Ltd.
Hawkesbury

Nov 08, 2005
10:36 am

Work Order No : 0023756
Project Name : D3304-044
Project For : WK532
Work Order Type : Main
Main WO Number :
House Part Number : D3304-044
Description : Tube Assembly
Manufactured : Yes
Amount Req'd : 2
Amount Done : 0
Start Date : 07-05-05
Est Finish Date : 08-10-05
Act Finish Date :
Drawings Req'd : No
Ok for Approval :
Approval Rec'd :

Department Code:
Burden Flags : NNNNNNNN
WO Status : Open
Invoice State : Not Invoiced
Invoice Date :
Invoice Number :
Invoice Amount : 0.00
Order Entry No :
OE Value : 0.00
Est Margin : 0.000%
Actual Margin : 0.000%
\$0 Posted to Finished Goods

	Estimated	Actual	Var. %	Posted	To Post
Material Cost :	0.00	0.00	0.00	0.00	0.00
Engineering Hours :	0.00	0.00	0.00		
Engineering Cost :	0.00	0.00	0.00	0.00	0.00
Production Hours :	0.00	1.00	100.00		
Production Cost :	0.00	20.27	100.00	0.00	20.27
Packaging Hours :	0.00	0.00	0.00		
Packaging Cost :	0.00	0.00	0.00	0.00	0.00
OverHead Hours :	0.00	0.00	0.00		
OverHead Cost :	0.00	0.00	0.00	0.00	0.00
CNC Hours :	0.00	1.00	100.00		
CNC :	0.00	0.00	0.00	0.00	0.00
Misc. Hours :	0.00	0.00	0.00		
Misc. :	0.00	0.00	0.00	0.00	0.00
Burden :	0.00	0.00	0.00		
Total Cost :	0.00	20.27	100.00		
Margin :	0.000	0.000			
Selling Cost :	0.00	20.27			

Labour Hrs/Amount Done :	Estimated	Actual
Profits/(Loss) :	0.00	0.00
	0.00	(-20.27)

MIS 2/B
11-13

Date: Monday, 14/11/2005 8:53:26 AM
User: Alba Panzuto

Process Sheet

Customer :	CU-DAR001 Dart Helicopters Services	Drawing Name :	TUBE ASSEMBLY
Job Number :	23756		
Estimate Number :	10426		
P.O. Number :		Part Number :	D3304044
This Issue :	14/11/2005	S.O. No. :	
Prsht Rev. :	NC	Drawing Number :	D3304 REV. B
First Issue :	//	Project Number :	
Previous Run :		Drawing Revision :	B
	Type :	Material :	
	MACHINED PARTS	Due Date :	15/12/2005
Written By :		Qty:	2
Checked & Approved By :		Um:	Each
Comment :	Est: D 04.11.26 Revised Steps 7 KJ/JLM		

Additional Product

Job Number:



Seq. #:	Machine Or Operation:	Description :
1.0	M304TR0875W065	SS TUBING
2.0	HARDINGE	HARDINGE CNC LATHE SMALL
Comment: HARDINGE CNC LATHE SMALL 1- Cut blank: 22.00" as per Dwg D3304 2- Turn as per Folio FA458 and Dwg D3304 3- Deburr		
3.0	QC2	INSPECT PARTS AS THEY COME OFF MACHINE
Comment: INSPECT PARTS AS THEY COME OFF MACHINE		
4.0	QC8	SECOND CHECK
Comment: SECOND CHECK		
5.0	SMALL FAB 1	SMALL & MEDIUM FAB RESOURCE 1
Comment: SMALL & MEDIUM FAB RESOURCE 1 1- Drill as per Dwg D3304 using drill Jig D3304-T1 2- Form as per Dwg D3304 3- Cut tube to length as per Dwg D3304 4- Deburr		
6.0	QC5	INSPECT WORK TO CURRENT STEP
Comment: INSPECT WORK TO CURRENT STEP		

Date: Monday, 14/11/2005 8:53:26 AM
User: Alba Panzuto

Process Sheet

Customer: CU-DAR001 Dart Helicopters Services

Drawing Name: TUBE ASSEMBLY

Job Number: 23756

Part Number: D3304044

Job Number:



Seq. #:	Machine Or Operation:	Description :
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7.0	D33048	Bracket
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8.0	LARGE FAB 1	LARGE FABRICATION RESOURCE 1
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Comment: LARGE FABRICATION RESOURCE 1
Weld bracket as per Dwg D3304 and QSI 004

9.0	QC9	VISUAL WELDING INSPECTION
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Comment: VISUAL WELDING INSPECTION

10.0	POWDER COATING	POWDER COATING
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Comment: POWDER COATING
Powder Coat Grey Sandtex (Ref: 4.3.5.6) as per QSI 005 4.3

11.0	QC3	INSPECT POWDER COAT/CHEMICAL CONVERSION
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Comment: INSPECT POWDER COAT

12.0	BLBS0016	PIP PIN
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13.0	CBL460	Loop Sleeve
------	--------	-------------

14.0	CBL1240	Cable
------	---------	-------

15.0	SMALL FAB 1	SMALL & MEDIUM FAB RESOURCE 1
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Comment: SMALL & MEDIUM FAB RESOURCE 1
Assemble lanyard and pip pin as per Dwg D3304
Identify as D3304-044

16.0	QC5	INSPECT WORK TO CURRENT STEP
------	-----	------------------------------



Comment: INSPECT WORK TO CURRENT STEP

17.0	PACKAGING 1	PACKAGING RESOURCE #1
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Comment: PACKAGING RESOURCE #1
Identify with P/N and B/N as per Dwg using a permanent fine point marker, then Stock
Location: _____

Date: Monday, 14/11/2005 8:53:26 AM
User: Alba Panzuto

Process Sheet

Customer: CU-DAR001 Dart Helicopters Services

Drawing Name: TUBE ASSEMBLY

Job Number: 23756

Part Number: D3304044

Job Number:



Seq. #:

Machine Or Operation:

Description :

18.0

DC

DOCUMENT CONTROL



Comment: DOCUMENT CONTROL
Inspection Level 21

Job Completion

